

92H L-80
82092392HG.M. RESOURCES - CANAM PROPERTY -HOPE OPERATION, B.C.DECEMBER 1980G M RESOURCES LIMITED

TWO B.C. MINERAL EXPLORATION PROGRAMS NOW UNDERWAY - G M Resources Limited since May 1981 has participated in two wells in Alberta, one in California, five in Texas and one in Oklahoma. Of these, five are testing or being completed, two are drilling and two have been abandoned. Of the company's shut-in gas reserves, the Elmworth 10-27-70-12 well is scheduled to be placed on production this month and the Karr 11-36-64-2 well in November.

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The stage 1 exploration program on the Nickel Plate gold property in which the company has a 61.7% share interest, has been successfully completed. This program increased the drill indicated reserves above the 450 level to 14⁰, 23⁰ tons grading 0.273 ounces of gold per ton. Mascot Gold will proceed with a \$3,000,000 further gold exploration program.

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GEORGE CROSS NEWS LETTERSeptember 4, 1981G M RESOURCES LIMITED

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KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

DEC 10 1980

To D.A. Lowrie From W.M. Sirola

Subject Giant Resources Limited
Canam Properties, Hope (92-H-6)

Date December 9, 1980.

J.D.B.
A.H.C.
P.S.C.
D.M.H.
W.J.
J.B.S.
FILE

The sentiments expressed by Lou Starck about exploration and development of the Hedley Camp apply equally well to further work on the Canam Property which is on the Hope Princeton Highway, 20 miles southeast of Hope.

Work on this property has been carried out sporadically since 1930 and there are now six adit levels totalling 2700 feet of workings. To the best of my knowledge the property is now totally owned by Giant Resources or one of its affiliated companies.

The highest grade reserve is the north end of the A.M. breccia zone which has been calculated to contain 2,800,000 tons (90% proven) with an average grade of 1.35% copper, 0.017% Au, 0.72 oz. Ag, 0.33% MoS₂. This calculation includes 15% dilution and the cut-off grade used was 0.8% copper. Using a 0.4% cut-off, this reserve becomes 9,041,220 tons at 0.61% cu (proven and probable over a vertical interval of 1,587 feet).

The latest figures Lou Starck has regarding the profitability of the proposed Canam operation are based on a 2,000 tpd plant which would cost approximately \$15,000,000. This sum would be repaid after 4 years operation and would have a net cash flow of \$17,145,000, the present value of which is \$5,000,000 when discounted at 15%. These figures result from a 1979 update of a 1966 feasibility study conducted by Wright Engineers.

I believe that these figures are already out of date and I agree with you that a higher price for copper would be required for a comfortable operation.

W.M. Sirola,
Regional Exploration Manager.

WMS/al:

INTER-OFFICE CORRESPONDENCE

DEC 1 1980

TO DIRECTORS - G M RESOURCES LIMITED

DATE NOVEMBER 18, 1980

FROM L.P. STARCK

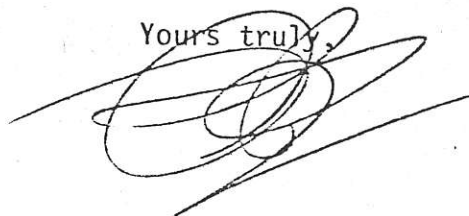
COPIES TO A.H. AINSWORTH

SUBJECT TORONTO STOCK EXCHANGE TRADING SUMMARY

I.D.B.
A.H.C.
P.S.C.
D.M.H.
W.J.
J.B.S.
FILE

For your information please find enclosed the above captioned trading summary for the month of October, 1980.

Yours truly,



L.P. Starck

LPS:cm
Encl.

THE TORONTO STOCK EXCHANGE TRADING SUMMARY FOR OCT 1980

STOCK NAME - G M RESOURCES LTD		STOCK SYMBOL - GMA				CUSIP NO. 362020-10-9	MINE		
DATE	OPEN	BFD LOT HIGH	BRD LOT LOW	ODD LOT HIGH	EOO LOT LOW	CLOSE	TRANSACTIONS	VOLUME	VALUE
01	6 2/	6 2/	6	6	6	6 1/	9	5,025	30,800.000
02	6 1/	6 2/	6			6 1/	13	12,500	76,500.000
03	6	6 1/	5 7/	6 1/	6 1/	6	30	50,950	302,643.750
04	6 1/	6 1/	6	6 1/	6 1/	6	16	10,850	65,116.750
07	6 1/	6 1/	6 1/			6 1/	10	6,000	36,750.000
08	6 1/	6 1/	6	6 1/	5 7/	6 1/	16	7,066	42,750.250
09	6 1/	6 1/	6	5 7/	5 7/	6	12	4,425	26,634.375
10	6 1/	6 1/	5 7/	5 7/	5 7/	6	12	12,775	76,703.125
14	6 1/	6 1/	5 7/	6 1/	5 6/	6	19	7,300	43,766.750
15	6	6 2/	6			6 2/	8	16,600	101,012.500
16	6 4/	6 5/	6 3/	6 3/	6 2/	6 3/	18	14,700	95,456.250
17	6 4/	6 4/	6 2/			6 3/	11	10,100	65,387.500
20	6 3/	6 3/	6 1/	6 2/	6	6 3/	16	4,675	29,409.375
21	6 3/	6 5/	6 3/	6 1/	6 1/	6 5/	26	14,762	96,042.250
22	6 5/	6 6/	6 4/	6 4/	6 4/	6 5/	33	22,950	153,162.500
23	6 6/	6 6/	6 3/	6 4/	6 4/	6 3/	14	4,650	30,467.500
24	6 3/	6 3/	6 1/	6 2/	6	6 3/	14	4,527	26,524.500
27	6 2/	6 4/	6 2/	6 3/	6 1/	6 3/	15	3,025	19,221.875
28	6 2/	6 3/	6 2/	6 4/	6 4/	6 3/	6	1,105	7,032.500
29	6 4/	6 4/	6 3/	6 5/	6 5/	6 3/	13	7,450	47,493.750
30	6 3/	6 3/	6 1/	6 4/	6 4/	6 1/	21	13,850	86,425.000
31	6 2/	6 4/	6 2/			6 3/	26	20,340	130,262.500
OCT SUMMARY	6 2/	6 6/	5 7/	6 5/	5 6/	6 3/	358	255,825	1,591,687.000
YEAR TO DATE SUMMARY	6 3/	6 6/	5 3/	6 3/	5 5/	6 3/	4,471	3,529,014	26,899,355.125

RECEIVED
NOV 14 1980

TO: DIRECTORS, GM RESOURCES LIMITED

FROM: N. JOHNSON

NOV. 24 1980

DATE: NOVEMBER 18, 1980

RE: CASH FORECAST NOVEMBER 14, 1980Bank Accounts

G M Resources Limited		\$ 5,802
G M Explorations Limited		7,745
Mascot Mines & Petroleum Limited		1,105
Giant Mascot Explorations Limited		18
Mascot Gold Mines Limited		1,295
	Sub Total	15,965
Short term deposits - surplus		3,225,000
principal reserve		4,760,000
	Total	8,000,965
\$10.0 M M Debenture		7,000,000
Shareholders Loan		1,500,000
Interest		30,918
	Total	\$ 8,530,918
Short term deposits -		\$ 3,225,000
Canadian Hunter	210,000	
Israel (Seismic only)	50,000	
North Dakota	25,000	
Stillman County Texas	25,000	
Dunaway #2 (D & A)	-	
R. Jennings	15,000	
MGM - Advances as required until		
Proceeds of offering received	-	
Giant Copper (approximate program		
costs outstanding Nov. 14/80)	70,000	
Irvine (completion)	30,000	
Cemp	500,000	
West Odell (D & A)	-	
East Silo (Including D & A plus		
land)	160,000	
Gifts Prospect (D & A)	-	
Leo Prospect (D & A)	-	
Sulpetro - Haskell Cty. (D & A)	80,000	
- Westwood	100,000	
- Other	-	
Nemaha Ridge Kansas (1/64th)	100,000	
Piper Share Commitment	395,000	1,760,000
Available Cash Surplus		1,465,000

* NOTE: An additional \$550,000 will be available when the Rundle Crossfield well (\$250,000) and advances on the Seven Persons infill drilling program (\$300,000) are reimbursed from funds held on deposit in regards to the Income Debenture. Also an addition \$275,000 will be available upon the completion of the Mascot Gold Mines Limited offering (Estimated advances to November 14, 1980 & equipment) Not included in the cash position is some \$93,000 of interest receivable on the short term deposits.

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

JAN 8 1981

To D.A. Lowrie From W.M. Sirola
Subject G.M. Resources Limited Date December 23, 1980.
Giant Copper Mine feasibility update

I.D.B.
A.H.C.
P.S.C.
W.J.
D.A.E.
J.B.S.

FILE

This information on the former Canam Property is a December 20, 1979 update of a 1966 study by Wright Engineers.

The cash flow summary on page 10 implies that the net present value of mining the deposit at 2,000 tpd with 100% debt financing would be \$7,500,000 when the cash flow is discounted at 15%. The pay back period is indicated to be three years.

To arrive at the above figures the following metal prices were used: copper - 90¢ per lb.; gold \$400 per oz.; silver \$15 per oz.; molybdenum \$10 per lb. Total capital cost was estimated to be \$23,525,000. Operating cost ranged from \$9.95 per ton in year one to \$5.20 in year four.

I do not think the figures reflect today's costs and we will try to assemble what we consider a more realistic picture sometime after the first of the new year.

Bill
W.M. Sirola,
Regional Exploration Manager.

WMS/al: Encl.

DMH - The costs look too low although this is supposed to be an updated report

WRIGHT ENGINEERS LIMITED



Phone: 684-8371 • Cable "WRIGHTENG" • Telex: 04-54367

1444 Alberni Street, Vancouver, British Columbia, Canada, V6G 2Z4

Project No. 1044-100

December 20, 1979.

G.M. Resources Limited,
900-837 West Hastings Street,
Vancouver, B.C.
V6C 1B6

Attention: Mr. F. Holland, General Manager.

Gentlemen:

We are pleased to submit herewith six copies of our study entitled:

G.M. RESOURCES LIMITED
GIANT COPPER MINE
BRITISH COLUMBIA

UPDATE OF 1966 FEASIBILITY STUDY
FOR A 2,000 stpd OPERATION

As requested, this update has been carried out on a minimum budget basis. The 1966 study has been accepted "as is", and only the costs have been adjusted to reflect present-day dollars and a 2,000 tpd production rate. No attempt has been made to incorporate modern practises, methods or equipment, except where equipment becomes obsolete.

The accuracy of the estimate is expected to be in the -10% to +25% range.

We appreciate your confidence in entrusting this update to us and we believe the contents will provide the information you require for the development of future plans.

Yours very truly,

WRIGHT ENGINEERS LIMITED

W.A.R. Bolderston, P. Eng.

WARB/tm

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SECTION 1

TERMS OF REFERENCE

Wright Engineers Limited's terms of reference for this study were established at a meeting held with Mr. F. Holland, General Manager of G.M. Resources Limited, on December 5, 1979.

G.M. Resources is currently undertaking a re-evaluation of its proposed Giant Copper Mine, to which end the costs prepared by WEL in the March, 1966 study* are to be updated to December 1979 dollars and factored to reflect an increase in tonnage from 1,500 tpd (1966 design plant rate) to 2,000 tpd. In addition to a copper concentrate considered in the 1966 study, a molybdenum concentrate is to be produced. A cash flow is to be included, based on smelter contracts and metal prices determined by WEL.

While the updated costs are not suitable for a detailed financial analysis, they will, together with the preliminary cash flows, provide G.M. Resources with a basis for assessing the project and for planning future work on the property.

* Feasibility Study for 1,500 tpd Concentrating Plant at the A.M. Mine of Canadian Copper Company Limited, Hope, B.C.



SECTION 2
SUMMARY AND CONCLUSIONS

GENERAL

No attempt has been made to rework the March 1966 study prepared by WEL for a 1,500 tpd plant. Costs only have been revised; they are updated to December 1979 dollars, and factored to reflect an increase in tonnage to 2,000 tpd. The 1966 report should therefore be read in conjunction with this study.

For ease of comparison, the costs contained herein are presented in the same format as in the 1966 report; it should be noted, however, that power costs and fringe benefits are incorporated within each cost area and are not included as a separate item as in the previous report. A cost of \$0.06 per kWh has been used for diesel power generation.

The accuracy of the estimates is expected to be in the -10% to +25% range.

PRODUCTION RATES

	<u>Mine</u>	<u>Mill</u>
Annual ore production tons	700,000	700,000
Daily ore production - tons	2,700	2,000
Number of operating days per year	260	350
Days worked per week	5	7
Shifts worked per day	3	3



ANNUAL ORE PRODUCTION AND GRADES

<u>Operating Year</u>	<u>Annual Production Tons</u>	<u>Cu %</u>	<u>Au oz/ton</u>	<u>Ag oz/ton</u>	<u>MoS₂ %</u>
1	700,000	1.40	0.015	0.74	0.031
2	700,000	1.38	0.016	0.66	0.031
3	700,000	1.28	0.015	0.68	0.031
4	<u>510,000</u>	<u>0.98</u>	<u>0.011</u>	<u>0.49</u>	<u>0.031</u>
Total	<u>2,610,000</u>				
Average Grade		<u>1.28</u>	<u>0.015</u>	<u>0.65</u>	<u>0.031</u>

MINING

Preproduction development is considered to be carried out by the Owner on the basis of 2 shifts per day, 5 days per week; consequently no allowance has been made for overhead and profit.

The mine is assumed to operate 3 shifts per day, 5 days per week, producing 2,700 tpd or 900 tons per shift, whereas the 1966 study was based on 2 shifts per day, 5 days per week, and production of 1,800 tpd or 900 tons per shift. Therefore no change to the equipment requirements of the 1966 study is necessary, except where obsolescence is a factor.



PLANT

The plant will operate 3 shifts per day, 7 days per week to process 2,000 tpd of ore producing a copper and a molybdenum concentrate. The basic metallurgical data are presented below.

	<u>METALLURGY</u>								
	<u>tons/day</u>	<u>Assays</u>				<u>Distribution %</u>			
		<u>% Cu</u>	<u>% Mo</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>Mo</u>	<u>Au</u>	<u>Ag</u>
Heads	2,000.00	1.28	0.019	-	-	100	100	100	100
Conc. Cu	97.62	26.0		0.28	12.0	94.0			
Conc. Mo	0.76		52.0				60.0		
Tailing									

Note: - Arsenic in the concentrates could be a problem in marketing. The normal penalty is \$1.00 or more per ton for each 0.1% above 0.1% As.

- 0.031 MoS_2 contains 59.9% Mo = 0.0186% Mo

Assumptions:

Work Index	- 14.0
Optimum Grind	- 60-65 -200 mesh
Operating Time	- 350 days/year (700,000 tons/year)
Molybdenum Recovery	- 60% (average only for similar ores)



CAPITAL COST SUMMARY

	<u>\$ 000's</u>
Mining - Equipment	2,227
- Preproduction Development	<u>3,112</u>
Sub-Total	\$5,339
Plant Site and Roads	332
Ancillary Buildings	1,701
Electrical	1,300
Plant Process Buildings and Equipment	5,282
Water Supply and Sewage Disposal	352
Tailing Disposal	713
Concentrate Handling included in Concentrate Sales	-
Sub-Total	<u>\$15,019</u>
Contingency @ 15%	2,253
Engineering and Construction Management @ 15%	2,253
Inventory and Working Capital (Allowance)	<u>4,000</u>
TOTAL CAPITAL COST	<u>\$23,525</u>



OPERATING COST SUMMARY

		<u>\$ 000's</u>			
	<u>\$/ton</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
Mining		6,963 (\$9.95)	6,792 (\$9.70)	4,377 (\$6.25)	2,650 (\$5.20)
Beneficiation	4.20	2,940	2,940	2,940	2,142
Tailing Disposal	0.40	280	280	280	204
Administration	2.20	1,540	1,540	1,540	1,122
Exploration (Allowance)	1.00	700	700	700	-
TOTAL OPERATING COST		<u>12,423</u>	<u>12,252</u>	<u>9,837</u>	<u>6,118</u>
\$/ton		<u>\$17.75</u>	<u>\$17.50</u>	<u>\$14.05</u>	<u>\$12.00</u>

Note: Costs for power and fringe benefits are included in applicable areas.



CASH FLOWS (Economic Analysis)

Reserves, Grades *ounces 2.8 @ 1.35% 0.017 0.82 0.033*

Reserves are calculated to be 2.61 million short tons grading 1.28% copper, 0.015 oz/ton gold, 0.65 oz/ton silver and 0.031% MoS₂. No dilution was assumed.

Concentrate grades are 26% for copper and 52% for molybdenum.

Production was assumed to commence in 1982, after a two year preproduction period, at a rate of 700,000 short tons per year.

Metal Recoveries

Metal recoveries used were as follows:

Copper	94.0%
Silver	90.1%
Gold	91.1%
Molybdenum	60.0%

Recoveries were not varied over the mine life.

Smelter Contracts and Concentrate Shipping

Copper concentrate was assumed to be trucked to Vancouver for trans-shipment to a Japanese smelter. Shipping charges were broken down as follows:-

Truck to Vancouver	\$15 /ston (10 cents/ton-mile)
Port and Handling charges	\$ 3 /ston
<u>Freighter to Japan</u>	<u>\$40 /ston</u>
Total	\$58 /short ton of concentrates.

These costs should be considered as approximations.



Financing

For Case 1.0 bank loan financing was assumed for 100% of initial capital and working capital costs. Average interest rates of 14% for 1980, 12% for 1981 and 11% thereafter were used.

For Case 1.1 no bank financing was assumed (i.e. all equity financed).

Preproduction Period

A preproduction period of two years (1980 and 1981) was used in the analysis, with full production beginning in 1982.



CASH FLOW SUMMARY

100% DEBT. FINANCING - CASE 1.0

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>TOTAL</u>
Net Smelter Return	0	0	25.5	24.9	23.9	13.3	0	87.6
- Operating Costs	0	0	12.4	12.2	9.8	6.1	0	40.6
Operating Profit	0	0	13.1	12.6	14.1	7.2	0	47.0
- Income and Mining Taxes	0	0	0	0	0.2	7.2	0.9	8.2
- Interest Expense	0.5	1.7	2.0	1.0	0.2	0	0	5.4
Profit Before Capital	(0.5)	(1.7)	11.1	11.6	13.7	0	(0.9)	33.3
- Capital Costs	7.8	11.7	4.1	0.1	0.1	0	0	23.8
+ Bank Loans (Repayment)	8.4	13.4	(7.0)	(11.5)	(3.3)	0	0	0.0
+ Salvage and W.C. Recovery	0	0	0	0	0	5.0	0	5.0
Net Cash Flow	0	0	0	0	10.3	5.0	(0.9)	14.5

Economic Indicators (\$ million)

Net Present Value @ 0%	\$14.5	Bank Loan Payout - 3 years. (1984)
Net Present Value @ 10%	\$ 9.2	
Net Present Value @ 12%	\$ 8.5	
Net Present Value @ 15%	\$ 7.5	

- Notes: 1. 100% debt financing is assumed. Loans were repaid from available cash flow.
 2. Brackets indicate amount is negative.
 3. Bank Loans - drawdowns are positive and repayments are negative.

CASH FLOW SUMMARY

100% EQUITY FINANCING - CASE 1.1

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>TOTAL</u>
Net Smelter Return	0	0	25.5	24.9	23.9	13.3	0	87.6
- Operating Costs	0	0	12.4	12.2	9.8	6.1	0	40.6
Operating Profit	0	0	13.1	12.6	14.1	7.2	0	47.0
- Income and Mining Taxes	0	0	0	0	3.2	6.8	1.0	11.0
- Interest Expense	0	0	0	0	0	0	0	0
Profit Before Capital	0	0	13.1	12.6	10.9	0.4	(1.0)	36.0
- Capital Costs	7.8	11.7	4.1	0.1	0.1	0	0	23.8
+ Bank Loans (Repayment)	0	0	0	0	0	0	0	0
+ Salvage and W.C. Recovery	0	0	0	0	0	5.0	0	5.0
Net Cash Flow	(7.8)	(11.7)	9.0	12.5	10.8	5.4	(1.0)	17.1

Economic Indicators (\$ million)

Net Present Value @ 0%	\$17.1	Pay back Period	- 1.8 years
Net Present Value @ 10%	\$ 8.1	DCF Rate of Return	- 27.4 percent
Net Present Value @ 12%	\$ 6.8	Percent Pay back	- 188 percent
Net Present Value @ 15%	\$ 5.1		

Notes: 1. Brackets indicate amount is negative.

CONCLUSIONS

This preliminary study, in our opinion, indicates that further work is warranted on the Giant Copper Mine property leading to a full scale feasibility study which will finally establish the costs and the financial viability of the project.

Diesel power generation has been assumed as was the case for the 1966 study but because of the high cost and rapidly escalating cost of diesel oil we recommend that a study be initiated comparing diesel generation and B.C. Hydro supply.

Propane should also be investigated as a possible substitute for diesel oil.



CAPITAL COSTS - Cont'd.\$ 000'sPLANT PROCESS BUILDINGS AND EQUIPMENT

Coarse Ore Bin	222
Crusher Building and Conveyor	393
Fine Ore Bin	200
Mill Building	579
Crushing Equipment	1,135
Grinding and Flotation Equipment	1,722
Filtering Equipment	191
Mill Tools and Laboratory Equipment	95
Installation Costs	<u>745</u>
Total	\$ <u>5,282</u>

WATER SUPPLY AND SEWAGE DISPOSAL

Piping, Tanks and Pumps Installed	286
Miscellaneous Excavation	4
Sewage Disposal	<u>62</u>
Total	\$ <u>352</u>

TAILING DISPOSAL

Equipment Cost	516
Installation and Construction	<u>197</u>
Total	\$ <u>713</u>

TOTAL	\$ <u>15,019</u>
-------	------------------

Note: Concentrate handling is included
in concentrate sales.



OPERATING COSTS

	<u>\$ 000's</u>			
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
<u>MINING</u>				
Shaft Completion to 5,520-ft. Elevation <i>Coine</i>	171	-	-	-
Diamond Drilling	154	154	39	-
Development	1,465	1,465	-	-
Preparation	436	436	227	-
Stoping	1,393	1,393	1,393	-
Secondary Breaking	324	324	324	326
Tramming	910	910	650	319
Miscellaneous Mine Expenses	1,196	1,196	830	455
Supervision	356	356	356	188
Engineering and Geology	283	283	283	147
Power	275	275	275	200
Pillar Recovery	-	-	-	1,015
Total	<u>6,963</u>	<u>6,792</u>	<u>4,377</u>	<u>2,650</u>
\$/ton	<u>\$9.95</u>	<u>\$9.70</u>	<u>\$6.25</u>	<u>\$5.20</u>



OPERATING COSTS - Cont'd.

	<u>\$ 000's/Year</u> <u>@ 700,000 tpy</u>	<u>\$/ton</u>
<u>BENEFICIATION PLANT</u>		
Labour	1,190	1.70
Consumables	740	1.06
Repair Parts	120	0.17
Power	840	1.20
Other Supplies, Assay, etc.	<u>50</u>	<u>0.07</u>
Total	\$ <u>2,940</u>	<u>\$4.20</u>
<u>TAILING DISPOSAL</u>		
Dam Building	120	0.17
Pump Parts	77	0.11
Replacement Labour	15	0.02
Power	<u>68</u>	<u>0.10</u>
Total	\$ <u>280</u>	<u>\$0.40</u>
<u>ADMINISTRATION</u>		
Labour	432	0.62
Supplies and Costs	924	1.32
Head Office	120	0.17
Vehicle Operation	<u>64</u>	<u>0.09</u>
Total	\$ <u>1,540</u>	<u>\$2.20</u>



 1980 1981 1982 1983 1984 1985

 PRODUCTION AND METAL PRICES (IN US CURRENCY)

10. MILL TONNAGE (MLN TONS)	0.000	0.000	.700	.700	.700	.510
11. COPPER (\$/LB)	.900	.900	.900	.900	.900	.900
12. GOLD (\$/OZ)	400.000	400.000	400.000	400.000	400.000	400.000
13. SILVER (\$/OZ)	15.000	15.000	15.000	15.000	15.000	15.000
14. MOLYBDENUM (\$/LB)	10.000	10.000	10.000	10.000	10.000	10.000
15. EXCHANGE RATE (CAN\$/US\$)	1.170	1.150	1.150	1.150	1.150	1.150

 CONCENTRATOR OPERATION

16. MILL HEAD GRADE (PCNT CU)	0.000	0.000	1.400	1.380	1.280	.980
17. COPPER RECOVERY (DECIMAL)	0.000	0.000	.940	.940	.940	.940
18. COPPER PRODUCED (MILLION LB)	0.000	0.000	18.424	18.161	16.845	9.396
19. CONCENTRATE GRADE (PCNT)	0.000	0.000	26.000	26.000	26.000	26.000
20. CONCENTRATE PRODN (MLN TONS)	0.000	0.000	.035	.035	.032	.018
21. MILL HEAD GRADE (OZ/T)	0.000	0.000	.015	.016	.015	.011
22. GOLD RECOVERY	0.000	0.000	.911	.911	.911	.911
23. GOLD PRODUCED (MILLION OZ)	0.000	0.000	.010	.010	.010	.005
24. MILL HEAD GRADE (OZ/T)	0.000	0.000	.740	.660	.680	.490
25. SILVER RECOVERY	0.000	0.000	.901	.901	.901	.901
26. SILVER PRODUCED (MILLION OZ)	0.000	0.000	.467	.416	.429	.225
27. MILL HEAD GRADE (PCNT MOS2)	0.000	0.000	.031	.031	.031	.031
28. MOLYBDENUM RECOVERY	0.000	0.000	.600	.600	.600	.600
29. MOLYBDENUM PRODUCED (MLN LBS)	0.000	0.000	.156	.156	.156	.114

 TOTAL OPERATING PROFIT BEFORE TAX

30. COPPER	+ 1.15%	0.000	18.189	22.74	17.929	16.630	9.276
31. GOLD	+ 1.50%	0.000	4.180	6.27	4.459	4.180	2.234
32. SILVER	+ 2.00%	0.000	7.246	14.47	6.463	6.659	3.496
33. MOLYBDENUM	-	0.000	1.795	1.79	1.795	1.795	1.308

 34. TOTAL REVENUE (CAN.) 0.000 0.000 31.411 45.29 30.646 29.264 16.314

35. - REVENUE DEDUCTIONS (CAN.) 0.000 0.000 5.876 7.54 5.793 5.378 2.997

36. NET SMELTER RETURN (CAN.) 0.000 0.000 25.535 27.75 24.853 23.886 13.317

37. - OPERATING EXPENSES (CAN.) 0.000 0.000 12.425 16.15 12.250 9.835 6.120

38. OPERATING PROFIT (CAN.) 0.000 0.000 13.110 21.60 12.603 14.051 7.197
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NET AND DISCOUNTED CASHFLOW - PAGE 2

	1980	1981	1982	1983	1984	1985	1986	ACCUM
10. OPERATING PROFIT BEFORE TAX	0.000	0.000	13.110	12.603	14.051	7.197	0.000	46.961
11. --INTEREST EXPENSE: PRODUCTION : PRE-PRODN.	0.000 .547	0.000 1.706	2.011 0.000	.993 0.000	.180 0.000	0.000 0.000	0.000 0.000	3.183 2.254
12. +INTEREST INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13. +OTHER INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14. -FEDERAL INCOME TAX	0.000	0.000	0.000	0.000	0.000	3.133	0.000	3.133
15. -BC INCOME TAX	0.000	0.000	0.000	0.000	.146	2.494	0.000	2.640
16. -BC MINERAL RESOURCES TAX	0.000	0.000	0.000	0.000	.030	1.529	.886	2.445
17. OPERATING PROFIT AFTER TAX	-.547	-1.706	11.099	11.610	13.695	.040	-.886	33.305
18. -CAPITAL COST: PLANT + EQUIPMENT	6.570	9.843	0.000	0.000	0.000	0.000	0.000	16.413
19. : EXPL. + DEVELOPMENT	1.250	1.862	0.000	0.000	0.000	0.000	0.000	3.112
20. -CAPITAL REPLACEMENT	0.000	0.000	.100	.100	.100	0.000	0.000	.300
21. -EXPLORATION EXPENDITURES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22. +PRIMARY BANK LOAN	7.820	11.705	4.000	0.000	0.000	0.000	0.000	23.525
23. +PRE-PRODN. INT. EXPENSE LOAN	.547	1.706	0.000	0.000	0.000	0.000	0.000	2.254
24. -SCHEDULED LOAN REPAYMENT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25. -OPTIONAL LOAN REPAYMENT	0.000	0.000	10.999	11.510	3.269	0.000	0.000	25.779
26. -WORKING CAPITAL CHANGE	0.000	0.000	4.000	0.000	0.000	-4.000	0.000	0.000
27. +SALVAGE	0.000	0.000	0.000	0.000	0.000	1.000	0.000	1.000
28. NET CASH FLOW	-.000	.000	0.000	0.000	10.326	5.040	-.886	14.480
29. DISCOUNTED NCF (10 PCT)	-.000	.000	0.000	0.000	6.725	2.984	-.477	9.232
30. DISCOUNTED NCF (12 PCT)	-.000	.000	0.000	0.000	6.201	2.703	-.424	8.479
31. DISCOUNTED NCF (15 PCT)	-.000	.000	0.000	0.000	5.506	2.337	-.357	7.485

B.C. MINERAL RESOURCES TAX (MRT) - PAGE 5

	1980	1981	1982	1983	1984	1985	1986	ACCUM
10. OPERATING PROFIT	0.000	0.000	13.110	12.603	14.051	7.197	0.000	46.961
11. -INVENTORY CREDIT	0.000	0.000	.100	.100	.100	.100	0.000	.400
12. -CLASS 2B CCA	0.000	0.000	10.969	7.339	0.000	0.000	0.000	18.308
13. -CLASS 10 CCA	0.000	0.000	.030	.051	.066	-.847	0.000	-.700
14. -CLASS X CCA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15. -NET INTEREST EXPENSE	0.000	0.000	2.011	.993	.180	0.000	0.000	3.183
16. -SUCCESSOR CLASS 10 CCA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17. -BC DEVELOPMENT (PRE-1979)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18. -SUCCESSOR E + D EXPENSES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19. -BC EXPLORATION AND DEVELOPMENT	0.000	0.000	0.000	3.471	0.000	0.000	0.000	3.471
20. -DEPLETION CLAIMED	0.000	0.000	0.000	.163	3.426	1.996	0.000	5.575
21. -PROCESSING ALLOWANCE	0.000	0.000	0.000	.317	1.542	.894	0.000	2.752
22. INCOME SUBJECT TO MRT	0.000	0.000	0.000	.171	8.737	5.054	0.000	13.972
23. BC MRT LIABILITY (17.5 PCT)	0.000	0.000	0.000	.030	1.529	.886	0.000	2.445
24. BC MRT PAYABLE	0.000	0.000	0.000	0.000	.030	1.529	.886	2.445

CASH BALANCES AND PRIMARY BANK LOAN - PAGE 12

	1980	1981	1982	1983	1984	1985	1986	ACCUM
10. OPENING CASH BALANCE	0.000	-0.000	.000	.000	.000	10.326	15.367	25.693
11. +NET CASH FLOW	-0.000	.000	0.000	0.000	10.326	5.040	-886	14.480
12. CLOSING CASH BALANCE	-0.000	.000	.000	.000	10.326	15.367	14.480	40.173
13. AVERAGE CASH BALANCE FOR INTEREST EXPENSE/INCOME PURPOSES	0.000	0.000	0.000	0.000	5.163	12.846	14.924	32.933

PRIMARY BANK LOAN STATEMENT

14. OPENING BALANCE	0.000	8.367	21.779	14.779	3.269	0.000	0.000	48.195
15. +BANK LOAN DRAW	7.820	11.705	4.000	0.000	0.000	0.000	0.000	23.525
16. +PREPRODUCTION INTEREST	.547	1.706	0.000	0.000	0.000	0.000	0.000	2.254
17. SUBTOTAL	8.367	21.779	25.779	14.779	3.269	0.000	0.000	73.973
18. -SCHEDULED REPAYMENTS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19. -OPTIONAL REPAYMENTS	0.000	0.000	10.999	11.510	3.269	0.000	0.000	25.779
20. CLOSING BALANCE	8.367	21.779	14.779	3.269	0.000	0.000	0.000	48.195
21. AVERAGE LOAN O/S	4.184	15.073	18.279	9.024	1.634	0.000	0.000	48.195
22. INTEREST EXPENSE	.547	1.706	2.011	.993	.180	0.000	0.000	5.437

INTEREST EXPENSE STATEMENT

23. PRIMARY BANK LOAN	.547	1.706	2.011	.993	.180	0.000	0.000	5.437
24. NEGATIVE CASH BALANCE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25. WORKING CAPITAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26. TOTAL INTEREST EXPENSE	.547	1.706	2.011	.993	.180	0.000	0.000	5.437

NET AND DISCOUNTED CASHFLOW - PAGE 2

	1980	1981	1982	1983	1984	1985	1986	ACCUM.
10. OPERATING PROFIT BEFORE TAX	0.000	0.000	13.110	12.603	14.051	7.197	0.000	46.961
11. -INTEREST EXPENSE: PRODUCTION : PRE-PRODN.	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
12. +INTEREST INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13. +OTHER INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14. -FEDERAL INCOME TAX	0.000	0.000	0.000	0.000	1.084	3.390	0.000	4.473
15. -BC INCOME TAX	0.000	0.000	0.000	0.000	1.454	1.905	0.000	3.360
16. -BC MINERAL RESOURCES TAX	0.000	0.000	0.000	0.000	.659	1.549	.950	3.158
17. OPERATING PROFIT AFTER TAX	0.000	0.000	13.110	12.603	10.854	.353	-.950	35.970
18. -CAPITAL COST: PLANT + EQUIPMENT	6.570	9.843	0.000	0.000	0.000	0.000	0.000	16.413
19. : EXPL. + DEVELOPMENT	1.250	1.862	0.000	0.000	0.000	0.000	0.000	3.112
20. -CAPITAL REPLACEMENT	0.000	0.000	.100	.100	.100	0.000	0.000	0.300
21. -EXPLORATION EXPENDITURES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22. +PRIMARY BANK LOAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23. +PRE-PRODN. INT. EXPENSE LOAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24. -SCHEDULED LOAN REPAYMENT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25. -OPTIONAL LOAN REPAYMENT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26. -WORKING CAPITAL CHANGE	0.000	0.000	4.000	0.000	0.000	-4.000	0.000	0.000
27. +SALVAGE	0.000	0.000	0.000	0.000	0.000	1.000	0.000	1.000
28. NET CASH FLOW	-7.820	-11.705	9.010	12.503	10.754	5.353	-.950	17.145
29. DISCOUNTED NCF (10 PCT)	-7.456	-10.145	7.100	8.957	7.003	3.169	-.511	8.116
30. DISCOUNTED NCF (12 PCT)	-7.389	-9.875	6.787	8.409	5.458	2.870	-.455	6.805
31. DISCOUNTED NCF (15 PCT)	-7.292	-9.491	6.353	7.666	5.734	2.482	-.383	5.068
32. DCF RATE OF RETURN - PCT	27.353	0.000	0.000	0.000	0.000	0.000	0.000	
33. PAYBACK - YEARS	1.841	0.000	0.000	0.000	0.000	0.000	0.000	

This study has been completed chiefly by the following staff
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